

2024-01-01 10:00:00

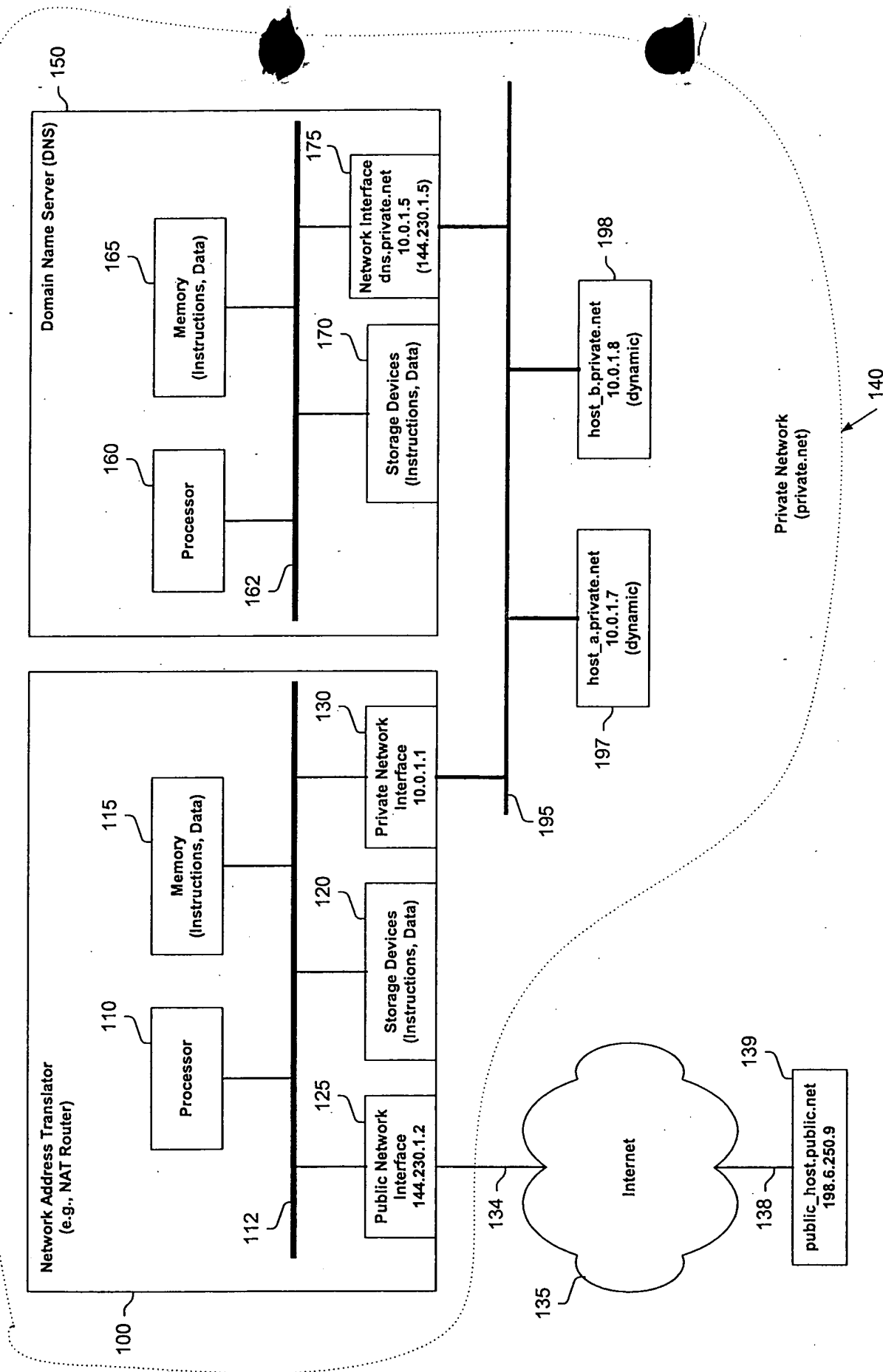


Fig. 1 - Operating Environment

Address Data  
Structure 200

| 201<br>↓<br><u>Hostname</u> | 202<br>↓<br><u>Private IP Address</u> | 203<br>↓<br><u>Public IP Address</u> | 204<br>↓<br><u>Lease Time</u> |       |
|-----------------------------|---------------------------------------|--------------------------------------|-------------------------------|-------|
| dns.private.net             | 10.0.1.5                              | 144.230.1.5                          | Permanent                     | ← 210 |
| host_a.private.net          | 10.0.1.7                              | 144.230.1.10                         | 1 hour                        | ← 220 |
| host_b.private.net          | 10.0.1.8                              |                                      |                               | ← 230 |

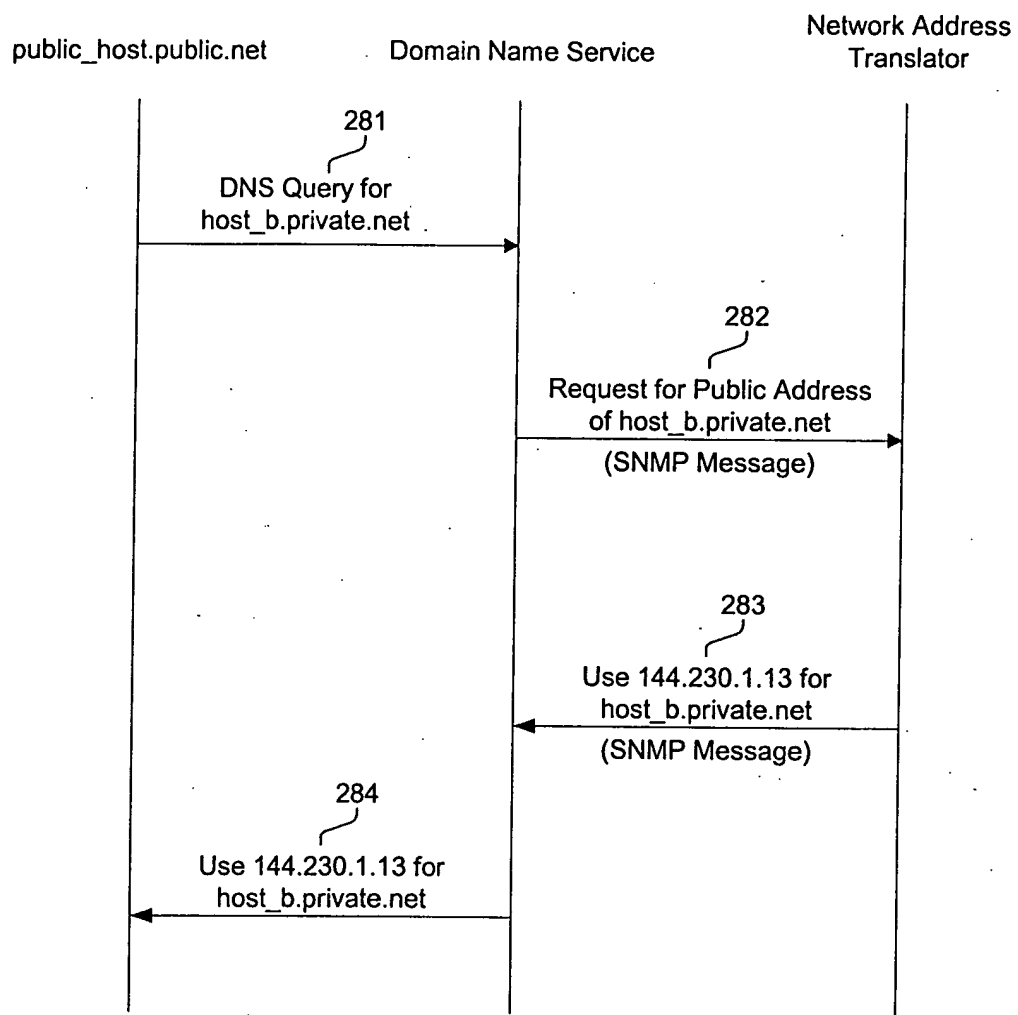
**Fig. 2A - Address Data Structure**

Address Data  
Structure 250

| <u>Hostname</u>    | <u>Private IP Address</u> | <u>Public IP Address</u> | <u>Lease Time</u> |       |
|--------------------|---------------------------|--------------------------|-------------------|-------|
| dns.private.net    | 10.0.1.5                  | 144.230.1.5              | Permanent         |       |
| host_a.private.net | 10.0.1.7                  | 144.230.1.10             | 1 hour            |       |
| host_b.private.net | 10.0.1.8                  | 144.230.1.13             | 15 Minutes        | ← 260 |

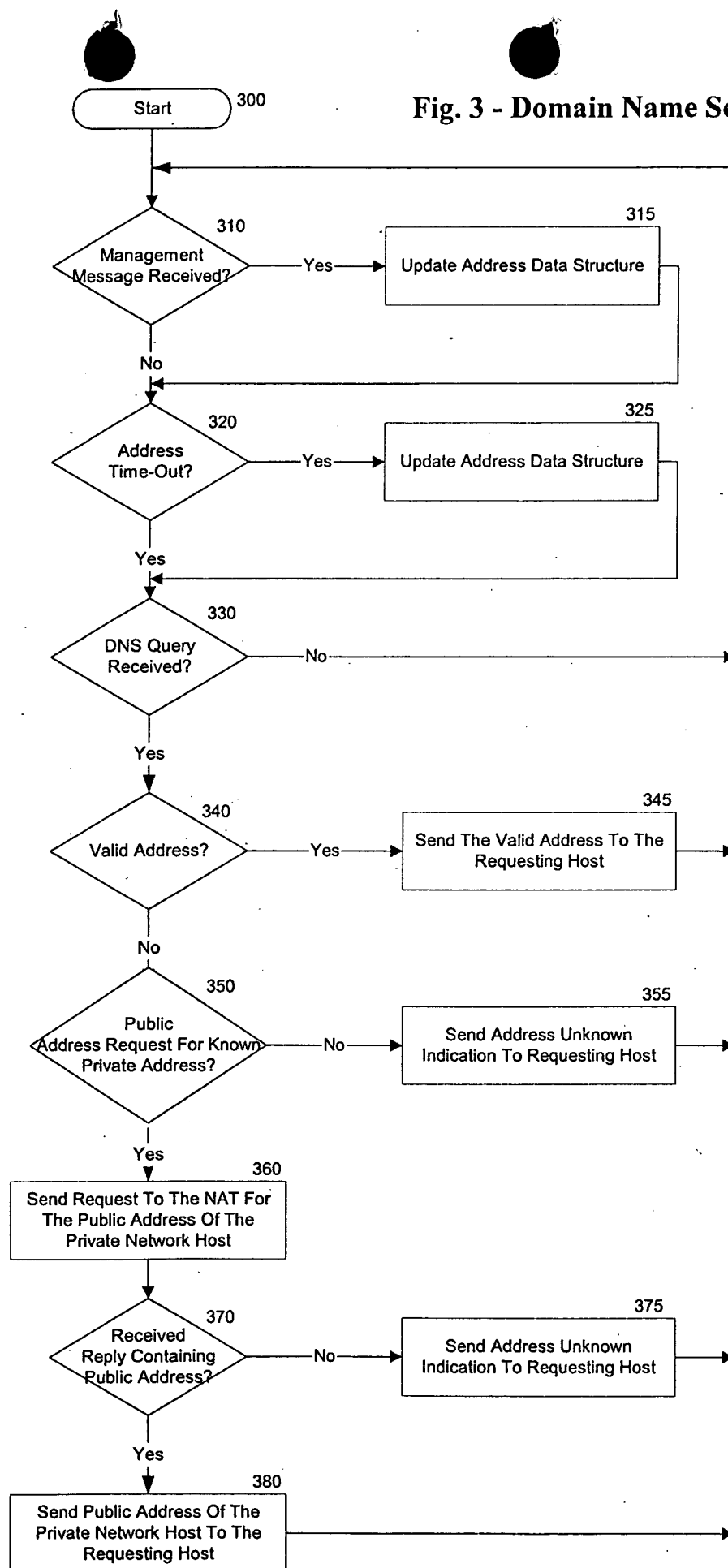
**Fig. 2B - Updated Address Data Structure**

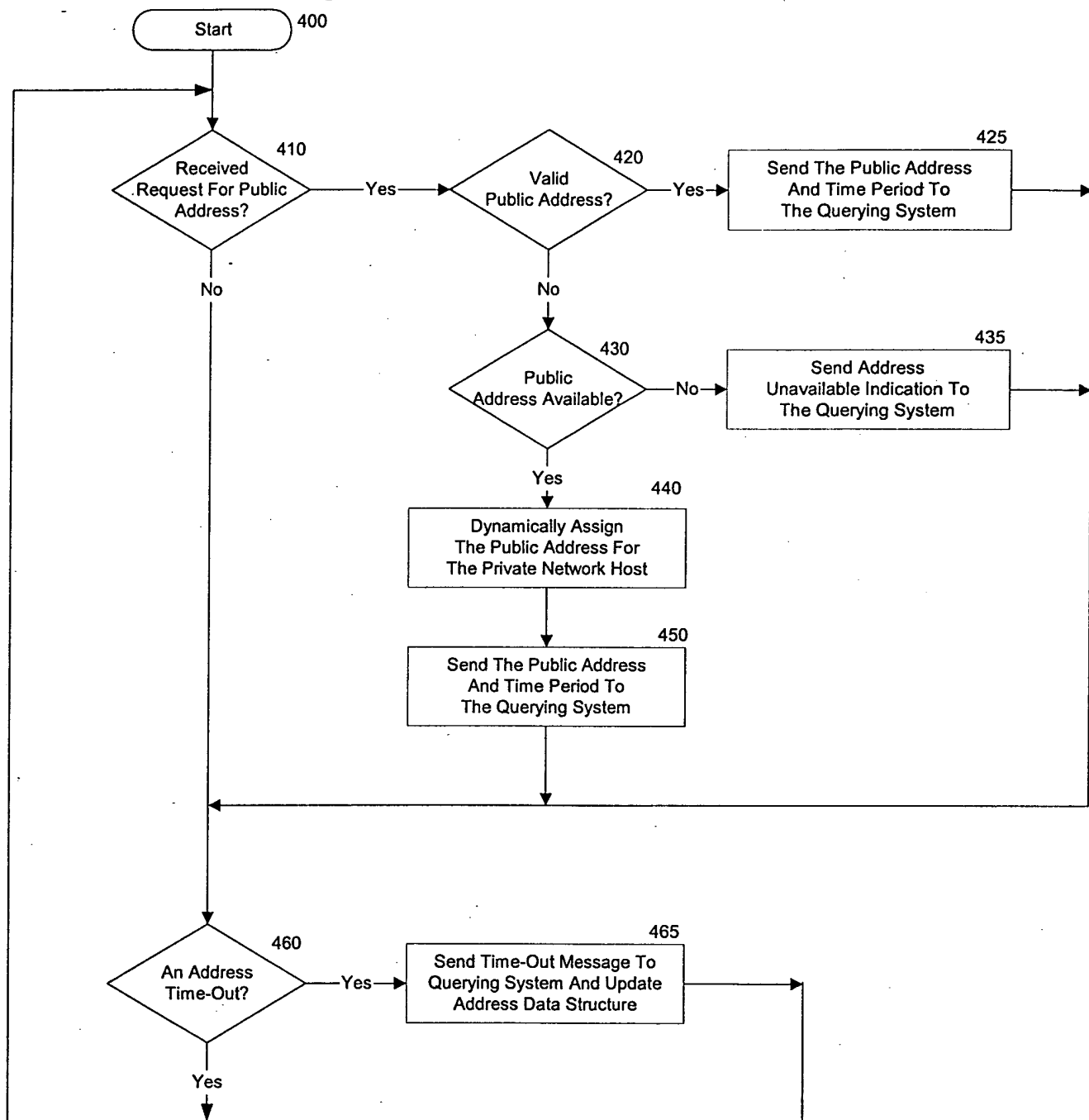
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**Fig. 2C - Public Network Address Request**

Fig. 3 - Domain Name Server





**Fig. 4 - Network Address Translator**